

PREQUALIFICATION PROCEDURES AND ACCEPTANCE CRITERIA FOR ULTIMATE SPLICE MECHANICAL COUPLERS ON ASTM A 706 REINFORCING STEEL

- I. Supplier provides
 - A. The model number/name of the product.
 - B. Brochures, shop drawings, and other technical information that indicates
 1. dimensions
 2. materials
 - C. Documentation of heat treatment or any special manufacturing process (i.e., forging the bar end).
 - D. Explanation of how bars are identified or marked.
 - E. Quality control procedures for materials and manufacturing process(es).
 - F. Test report from an independent testing lab verifying that the product meets Caltrans' mechanical coupler specifications in section 52 of the Standard Specifications.
 - G. Four samples of each splice and associated control bars, for each rebar size. For rebar sizes #10 and below, sample length must be 4 feet long; for rebar sizes #11 and above, sample length must be 6.5 feet.
 - H. Mill certificates for splices and rebar for each sample and rebar size.

- II. Caltrans will
 - A. Ensure all required documentation and samples are received.
 - B. Review the technical information the supplier provided.
 - C. Verify that length of coupler is less than 10 times the diameter of the rebar.
 - D. Perform mechanical testing
 1. slip test—total slip must not exceed the values in the table below

Reinforcing Bar Number	Total Slip (μm)
# 3 to # 6	250
# 7 to # 9	350
# 10 to # 11	450
# 14	600
# 18	750

2. cyclical and fatigue test
3. tensile test—samples must
 - a. exhibit a minimum tensile strength of 80 ksi; and
 - b. rupture in the rebar, with visible necking, either
 - i. outside the affected zone; or
 - ii. within the affected zone, provided that the sample splice has achieved at least 95% of the ultimate tensile strength of the control bar
- E. Upon evaluation of results from II.A to II.D above, issue either an acceptance letter or rejection letter.
- F. Update the Caltrans mechanical splices prequalified list, if applicable.

For more information, you may contact the Structural Materials Testing Branch at (916) 227-7251.

